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# ARCS

**Remedial Planning Activities  
at Selected Uncontrolled  
Hazardous Substance Disposal  
Sites in Region I**

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**Environmental Protection Agency  
Region I**

**ARCS Work Assignment No. 08-1JZZ**

Rayex  
Plainville, Connecticut  
CTD982191785  
TDD# 9103-02-ATS

Site Inspection  
Final Report

July 1992

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**TRC  
Companies, Inc.**

**Alliance Technologies Corporation  
TRC Environmental Consultants, Inc.**

**TAMS Consultants, Inc.  
PEI Associates, Inc.  
Jordan Communications, Inc.**

SITE INSPECTION  
RAYEX  
PLAINVILLE, CONNECTICUT

CTD982191785

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY  
Region I  
90 Canal Street  
Boston, Massachusetts 02203-2211

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## TABLE OF CONTENTS

Section	Page
INTRODUCTION .....	1
SITE DESCRIPTION .....	1
SITE ACTIVITY/HISTORY .....	6
ENVIRONMENTAL SETTING .....	8
RESULTS .....	13
SUMMARY .....	18
REFERENCES .....	20
<b>Appendices</b>	<b>Page</b>
A Analytical Results of Soil and Sediment Samples .....	A-1

## TABLES

Number	Page
1 Source Evaluation .....	5
2 CERCLA Sites Within One Mile of Rayex .....	6
3 Hazardous Waste Quantity .....	8
4 Public Water Supply Sources Within Four Miles of Rayex. ....	10
5 Private Well Users .....	11
6 Listed Species in the Vicinity of Rayex .....	12
7 Approximate Population Within Four Miles of Rayex .....	14
8 Sample Summary: Rayex .....	15
9 Sample Results Summary for Rayex .....	16

## FIGURES

Number	Page
1 Location Map .....	2
2 Site Sketch .....	4

## **INTRODUCTION**

TRC Companies, Inc. (TRCC) was contracted by Region I U.S. Environmental Protection Agency (EPA) to perform a Site Inspection (SI) of Rayex located in Plainville, Connecticut. All tasks were conducted in accordance with Work Assignment No. 08-1JZZ under EPA Contract No. 68-W9-0033.

Background information used in the preparation of this report was obtained through file searches conducted at the Connecticut Department of Environmental Protection (CTDEP), and the Plainville town offices. In addition, information was collected during TRCC's field work, including onsite reconnaissance and environmental sampling conducted on December 12, 1991 and January 3, 1992, respectively.

This Site Inspection report satisfies the guidelines developed under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, commonly referred to as Superfund. However, this document does not necessarily fulfill the requirements of other EPA regulations such as those under the Resource Conservation and Recovery Act (RCRA) or other federal, state, or local regulations. Site Inspections are intended to provide a preliminary screening of sites to facilitate EPA's assignment of site priorities. They are limited efforts and are not intended to supersede more detailed investigations.

## **SITE DESCRIPTION**

The Rayex property is located at 336 Woodford Avenue in Plainville, Hartford County, Connecticut at 41°39'48" north latitude and 72°51'38" west longitude (determined using a USGS quadrangle). The building occupies a 6.8 acre lot located in an industrialized area, which borders a residential neighborhood (Figure 1). Rayex manufactured plastic and metal sunglasses at the building between 1958 and 1968 (CTDEP, 1988). Operations conducted at the building included electroplating, metal fabrication, and injection molding. Information regarding building occupants prior to Rayex was not available. Nickson Industries, a

(b) (9)

BASE MAP IS A PORTION OF THE FOLLOWING 7.5' U.S.G.S. QUADRANGLES:  
BRISTOL, CT, 1966, PHOTOREVISED 1984; NEW BRITAIN, CT, 1966,  
PHOTOREVISED 1984

0 1000 2000 3000 feet



QUADRANGLE LOCATION

LOCATION MAP

RAYEX  
PLAINVILLE, CONNECTICUT

TRC Companies, Inc.

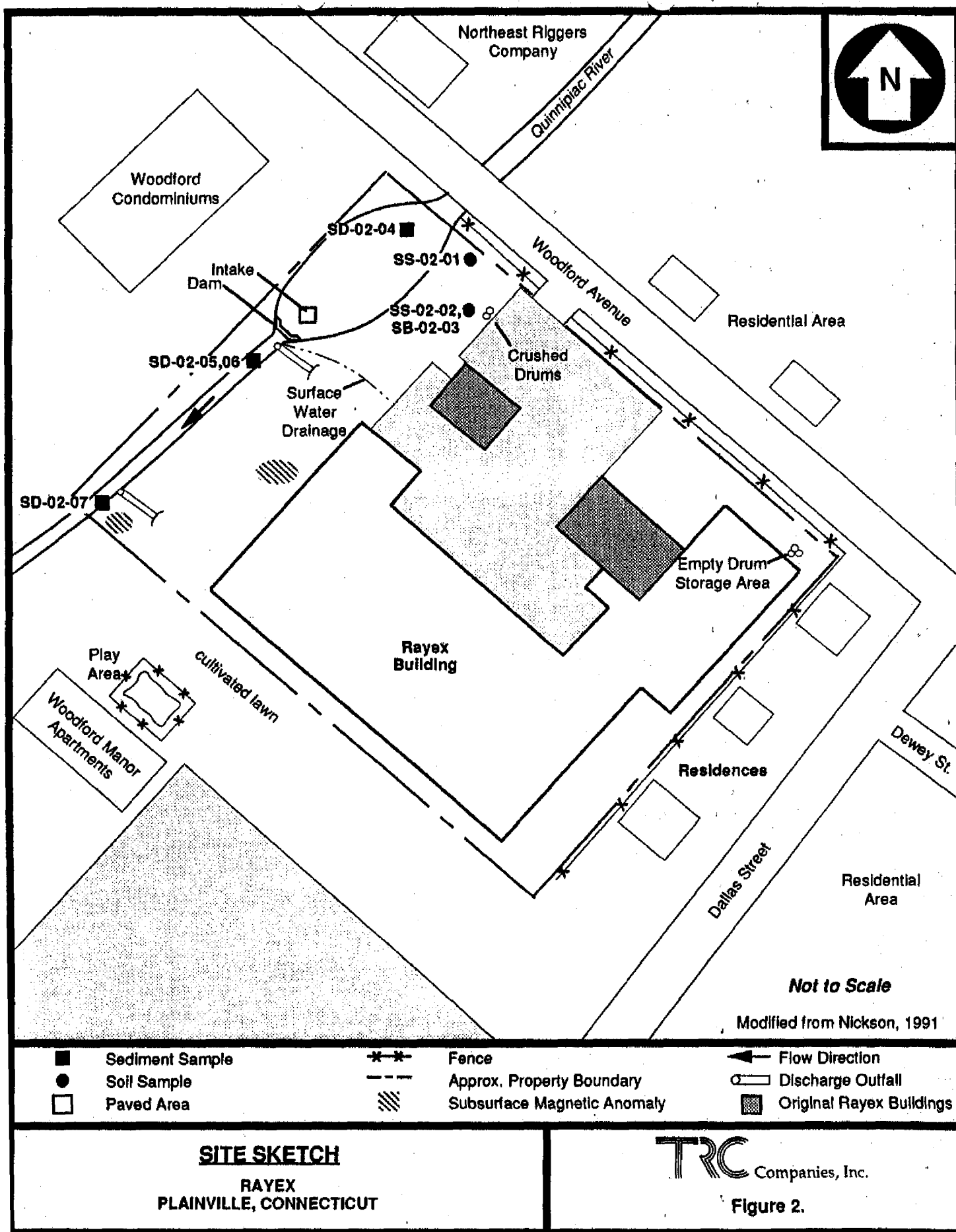
Figure 1.

manufacturer of automobile exhaust system hardware, currently occupies the building. The property is currently owned by Edmond D. Donovan and Roy S. Florian, both of whom are officers of Nickson Industries.

The original Rayex building consisted primarily of two buildings which were constructed in 1910 (Figure 2) (Plainville, 1986). One building housed the manufacturing operation and the second housed the boilers and other non-manufacturing equipment (TRCC, 1992a). When Rayex occupied the property, the only other man-made structure on the property was a small dam that was constructed across the Quinnipiac River in the 1940's (TRCC, 1992a). The dam was designed to create a small pond from which the building's occupants could draw water to power a freight elevator. The elevator is still functional. The used water is discharged back into the river through a four-inch pipe located four feet downstream of the dam. An addition to the manufacturing building was constructed in 1968 (Plainville, 1986). TRCC noted that surface water runoff from the paved area between the buildings had formed a distinct drainage channel into the river immediately below the dam. In addition, an oily sheen was noted on the river bank and in the river sediments during sampling (TRCC, 1992a). A storm water discharge pipe leading from the building's roof was noted protruding into the Quinnipiac River.

Rayex discharged waste from their manufacturing and plating operations (described below) to an 300-gallon underground lime neutralizing tank, which emptied to a leaching field (CTDEP, 1983). The locations of the neutralizing tank and the leaching field could not be identified during the review of the available file material or during the reconnaissance. However, based on discussions with Dave Hoyt, Nickson Industries' building engineer, and the review of historical aerial photographs, TRCC believes that the building addition or the associated pavement was constructed over the tank and leaching field (TRCC, 1992a).

The Rayex property is bounded to the northeast by Woodford Avenue, to the northwest by the western bank of the Quinnipiac River (the river flows through the property), to the southwest by the Woodford Manor apartment complex, and to the southeast by residential lots and Dallas Street (TRCC, 1992a). A paved parking lot covers most of the area fronting on



Woodford Avenue and between the buildings. The remaining area is covered by cultivated lawn. A fence, with a gate restricting vehicular access from Woodford Avenue, encloses the property on its northeast and southeast boundaries. During site reconnaissance, TRCC noted two crushed, rusted drums at the northern corner of the paved lot and also noted approximately fifty unlabelled, empty 55-gallon drums stored at the eastern corner of the site. TRCC also detected (with a metal detector) two subsurface magnetic anomalies between the building and the river. However, when the metallic object was exposed using a hand auger, neither were rigid enough to be a tank or drum.

The Woodford Manor Apartment complex is located approximately 75 feet southeast of the manufacturing building. A small fenced playground has been constructed between the apartments and the Rayex building. According to Mr. Hoyt, children from the apartments frequent the bank of the river on the Rayex property (TRCC, 1992a).

Table 1 presents all identified structures or areas on the Rayex property that are potential sources of contamination. The containment features and locations of each area are also presented.

TABLE 1. SOURCE EVALUATION		
Potential Source Area	Containment Features	Location
Neutralizing Tank and Leaching Field	No containment	Unknown; possibly under manufacturing building.
Crushed Drums	No containment	Approximately ten feet north of the parking lot.
Discharge Outfall	No containment	Four feet downstream of the dam; across the Quinnipiac River.

Source: CTDEP, 1983.

Forty-five companies in the Town of Plainville are listed as RCRA Notifiers on EPA's Hazardous Waste Data Management System (EPA, 1991). In addition, six CERCLA sites are



located within one mile of the Rayex building (EPA, 1992). The CERCLA sites are listed in Table 2.

TABLE 2. CERCLA SITES WITHIN ONE MILE OF RAYEX		
Site Name	Address*	EPA ID Number
G.E. Plainville	Woodland St.	CTD000842492
General Electric Co. DED North Plt.	New Britain Ave.	CTD000842500
Job Electroplating	138 East St.	CTD001148998
Plainville Electroplating	21 Forestville Ave.	CTD001149459
Sunoco Service Station	380 New Britain Ave.	CTD000841668
TRW Marlin-Rockwell Div.	Woodford Ave.	CTD001859776

Source: EPA, 1992.

\*All of the facilities are in Plainville.

## SITE ACTIVITY/HISTORY

In 1957, JKT of Conn., Inc. purchased the property at 336 Woodford Ave and began leasing it to Rayex Corp. in 1958 (Plainville, 1986). TRCC could not locate information regarding the history of the property's ownership prior to 1958. Rayex employed between 100 and 150 people to manufacture steel and plastic sunglasses at the building. Rayex manufactured approximately 12 million pairs of sunglasses annually until the company closed in 1968. The processes employed in the manufacture of sunglasses included injection molding and tumbling (plastics), metal fabrication and plating, and lacquering (CTWRC, 1965). Available information indicates that plating waste was the only known waste stream generated by these manufacturing processes.

In 1968, CT Water Resources Commission issued an order (Order No. 391) to Rayex requiring them to install a waste water treatment system for effluent from the metal plating line. No violations of this order are on file at CTDEP. The plating waste, which contained

acids, cyanide, potassium, nickel, silver, gold, and copper, was discharged to a 300-gallon, underground, lime neutralizing tank. The tank drained into a leaching field, which consisted of three, 40-foot long "lines" separated by four-inch spacer tiles (CTWRC, 1965). The locations of the neutralizing tank and the leaching fields cannot be confirmed. It has been reported that Rayex discharged between 10,730 gallons per day (gpd) (1965) and 38,000 gpd (1961) of plating waste to the leaching field (CTWRC, 1965; CTDEP, 1961). Nickson Industries personnel reportedly filled in the leaching field prior to 1983 (CTDEP, 1983).

In addition to the plating waste, Rayex also discharged water used to power a freight elevator and non-contact cooling water from the injection molding operation into the Quinnipiac River. Water was drawn from the man-made pond at a rate of approximately 5,000 gpd, 2,000 gallons (3,200 in 1965) of which were used to power the freight elevator and approximately 3,000 gallons of which were used to cool the injection molding machinery (CTDEP, 1961). During the summer months, an onsite production well was used to supplement water intake from the river. The production well is no longer in use and could not be located. Waste water from these two operations (approximately 5,000 gpd in 1961 and 147,000 gpd in 1965) was discharged into the Quinnipiac River through a four-inch pipe located four feet downstream of the dam (CTDEP, 1983). A 1974 NPDES permit (NPDES No. CT0002461) issued by CTDEP Water Compliance Division cited Rayex as a source of pollution to the Quinnipiac River. No violations of this permit are on file at CTDEP (CTDEP, 1992).

Currently, Nickson Industries manufactures muffler brackets for the automotive industry (TRCC, 1992a). Nickson has been listed as a small quantity generator (EPA ID No. CTD 054182688) since September 23, 1986. Waste streams generated by Nickson include mineral spirits (40 gallon per month), water soluble coolant (10 gallons per month), and scalings with oil (5 gallons per month) (Nickson, 1992). Nickson disposes of their waste offsite through Safety-Kleen Corporation (TRCC, 1992b).

Table 3 summarizes the types of potentially hazardous substances which have been generated, stored, or disposed on the Rayex property.

TABLE 3. HAZARDOUS WASTE QUANTITY				
Substance	Quantity, Volume, or Area	Years of Use or Storage	Years of Disposal	Source Area
Plating rinse water	38,000 gpd	1958-1968	1958-1968	Leaching field
Cooling/ Elevator water	147,000 gpd	1958-1968	1958-1968	Outfall

Source: CTDEP, 1961; CTWRC, 1965.  
gpd - gallons per day

TRCC located three hazardous waste inspection reports for inspections conducted in 1961, 1965, and 1983 at Rayex by CTDEP. No regulatory violations or hazardous waste handling infractions were noted in 1965 or 1983. However, in 1961, inspectors noted that the cooling/elevator water being discharged to the Quinnipiac River had a pH of 4.2 (CTDEP, 1961).

In 1988, NUS Corp. completed a Preliminary Assessment (PA) at the Rayex property. No samples were collected during the PA.

TRCC collected a total of eight samples, including three soil, four sediment, and one rinsate blank, from the Rayex property on January 3, 1992. Figure 2 illustrates the locations from which these samples were collected.

## ENVIRONMENTAL SETTING

Land in the vicinity of the Rayex property is classified as restricted industrial, residential, and general commercial (TRCC, 1992a). Residential land borders Rayex to the southeast, southwest, and northwest. The nearest residence is located approximately 25 feet southeast of the Rayex property boundary and 30 feet southeast of the manufacturing building (TRCC, 1992a).

Bedrock underlying the Rayex property consists of New Haven Arkose, which is a reddish, poorly-sorted arkose. Arkose is a sandstone-like sedimentary rock containing quartz, feldspar, and rock fragments (Rodgers, 1985). Overburden in the vicinity of Rayex consists primarily of coarse-grained stratified drift overlying fine-grained stratified drift with a thickness of greater than ten feet (Mazzaferro, 1986). The drift is composed predominantly of sand and gravel underlain by fine to very-fine sand, silt, and clay (Meade, 1978).

Based on the proximity of the Rayex property to the Quinnipiac River, ground water is expected to occur at depths of less than fifteen feet. In addition, assuming that the Quinnipiac is a receiving river, ground water probably flows to the west, toward the river. However, no ground water monitoring has been conducted on the Rayex property to substantiate these assumptions. Ground water in the vicinity of Rayex is classified by CTDEP as "GB/GA", which is defined as "within the area of influence of private and potential public water supply wells". Ground water classified as such is thought to be suitable for human consumption without treatment (Murphy, 1987).

Ground water from public and private wells is used as a source for drinking water in the vicinity of Rayex. The nearest known drinking water well is operated by the Plainville Water Company and is located across Woodford Avenue, less than 1000 feet north of the Rayex property (CTNRC, 1982). Four large municipal supply systems (Plainville, Unionville, Bristol, and Southington) maintain drinking water wells within four miles of Rayex. In addition, four small public water supply systems (less than 160 people served) utilize ground water drawn from wells located within four-miles of Rayex. Residents of the towns of Plainville and Southington maintain private drinking water wells within four miles of Rayex. According to local officials, private wells are scattered throughout the town (TRCC, 1991a-e).

A total of approximately 51,145 people use drinking water drawn from public or private wells located within four miles of the Rayex property (TRCC, 1991a-e; CTNRC, 1982). Tables 4 summarizes public well use within four miles of Rayex. Private well use within four miles of Rayex is summarized in Table 5.

**TABLE 4. PUBLIC WATER SUPPLY SOURCES WITHIN FOUR MILES OF RAYEX.**

<b>Distance/ Direction From Site (miles)</b>	<b>Source Name*</b>	<b>Location of Source</b>	<b>Approximate Population Served</b>	<b>Source Type</b>
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(b) (9)



TABLE 5. PRIVATE WELL USERS	
Radial Distance from Rayex (miles)	Approximate Population Served by Private Wells
0.00 - 0.25	66
0.25 - 0.50	200
0.50 - 1.00	796
1.00 - 2.00	2,532
2.00 - 3.00	1,008
3.00 - 4.00	668
TOTAL	5,270

Sources: TRCC, 1991a-e; CTSDC, 1991.

Surface water runoff from the Rayex property flows directly into the Quinnipiac River, the bank of which forms the property's northwestern boundary. The entire 15-mile surface water pathway, which ends in the Town of Meriden, follows the Quinnipiac. The Quinnipiac River is classified by CTDEP as a Class "B/A" surface water body until approximately one-half mile downstream of the site, where its classification changes to "Bc". Approximately 12 miles downstream, the River's classification changes to "C/Bc". "B/A" surface waters may not meet water quality criteria which support recreation and fish propagation. "Bc" waters meet water quality criteria for cold water fisheries. "C/Bc" waters do not currently meet either of these criteria (Murphy, 1987). No surface water intakes are known to occur along the 15-mile surface water pathway.

According to the Federal Emergency Management Agency (FEMA), the Rayex property is located within Quinnipiac River's 100-year flood plain (FEMA, 1988).

CTDEP's Natural Resources Center (CTNRC) lists 15 occurrences of state or federal endangered, threatened, or concern species or communities (listed species) within four miles of the Rayex building. None are known to occur within one-half mile of Rayex (CTNRC, 1991). In addition, three state listed species are known to occur along the 15-mile surface

water pathway. These species, including the approximate distance from the property and state and federal status, are listed in Table 6.

TABLE 6. LISTED SPECIES IN THE VICINITY OF RAYEX			
Common Name	Scientific Name	Approximate Distance from Site (miles)	State/Federal Status
Squirrel Corn	<i>Dicentra canadensis</i>	0.5 - 1	T/--
Goldies Fern	<i>Dryopteris goldiana</i>	1 - 2	T/--
Tall White Bog Orchid	<i>Platanthera dilatata</i>	1 - 2	SC/--
Climbing Fern	<i>Lygodium palmatum</i>	1 - 2	SC/--
Sandplain gerardia	<i>Agilinus acuta</i>	2 - 3	E/E
Black Spruce	<i>Picea mariana</i>	2 - 3	--/--
Ebony Sedge	<i>Carex eburnea</i>	2 - 3	--/--
Golden Seal	<i>Hydrastis canadensis</i>	2 - 3	E/3C
Nuttall Milkwort	<i>Polygala nuttallii</i>	2 - 3	E/--
Alluvial Swamp	--	2 - 3	--/--
Puttyroot	<i>Aplectrum hyemale</i>	3 - 4	SC/--
Virginia Waterleaf	<i>Hydrophyllum virginianum</i>	3 - 4	SC/--
New England Grape	<i>Vitis novae-angliae</i>	3 - 4	SC/--
Arethusa	<i>Arethusa bulbosa</i>	3 - 4	E/--
Dwarf Rattlesnake Plantain	<i>Goodyera repens</i>	3 - 4/DS	SC/--
Dwarf Bulrush	<i>Hemicarpha micrantha</i>	DS	E/--
Green Dragon	<i>Arisaema dracontium</i>	DS	SC/--

Source: CTNRC, 1991.

ER - Endangered

T - Threatened

SC - Special Concern

3C - Former Category; rejected because species has become more common or adequately protected

DS - Species noted downstream within 15 miles

-- - Not applicable

The Quinnipiac River supports several types of palustrine and riverine wetlands within 15 miles downstream of the Rayex property. Palustrine forested, broad-leaved deciduous; palustrine scrub/shrub; and palustrine emergent wetlands are located along the river within two miles downstream of Rayex. In addition, lower perennial riverine wetlands are located between two and twelve miles downstream, and upper perennial riverine wetlands are located between thirteen and fifteen miles downstream of Rayex (NWI, 1980a-c). Approximately

thirty miles of designated wetlands front on the Quinnipiac River along Rayex's 15-mile surface water drainage pathway. In addition, approximately 93 acres of wetland are located within one mile of the Rayex property. In the vicinity of Rayex, the Quinnipiac flows at a rate of approximately 10 cubic feet per second (cfs).

Approximately 65,443 people reside within four miles of Rayex. Table 7 lists these residents by distance.

## **RESULTS**

No samples were collected from the Rayex property prior to TRCC's Site Inspection.

On January 3, 1992, TRCC collected eight samples, including three soil, four sediment, and one rinsate blank from the Rayex property. All samples were analyzed through the Contract Laboratory Program (CLP) for full Target Compound List (TCL) organic compounds (volatile organic compounds [VOCs], semi-volatile organic compounds [SVOCs], pesticides, and polychlorinated biphenyls [PCBs]), and Target Analyte List (TAL) metals and cyanide.

All samples were collected using dedicated stainless steel sampling equipment. Sediment and subsurface soil samples were collected using hand augers, scoopulas, and bowls. Surface soil samples were collected using scoopulas, spoons, and bowls. Soils on the Rayex property can be characterized as dark-brown, fine to medium grained sand, with 10 to 20 percent gravel. Sediments varied between dark-brown sand with medium gravel and gray, fine to coarse sand with little gravel (TRCC, 1992a). An oily sheen was noted along the river bank and in the sediments downstream of the dam. Table 8 summarizes the locations and times at which the samples were collected.

Table 9 is a summary of the compounds and elements detected in the samples collected by TRCC. Listing of a compound or element is based on its detection at a concentration exceeding three times the concentration detected in the reference sample. If the compound or element was not detected in the reference sample, the sample quantitation limit (SQL) or sample detection limit (SDL) is used as the reference value; the compound or element is



TABLE 7. APPROXIMATE POPULATION WITHIN FOUR MILES OF RAYEX	
Distance (miles)	Approximate Population
onsite	75
0 - 0.25	351
0.25 - 0.5	1,052
0.5 - 1.0	4,208
1.0 - 2.0	5,169
2.0 - 3.0	25,466
3.0 - 4.0	29,122
TOTAL	65,443

listed on Table 6 if its concentration is equal to or greater than the SQL/SDL. Complete analytical results, SQLs, and SDLs are included in Appendix A.

Reference samples were selected by matrix (soils and sediments) and fraction (VOCs, SVOCs, pesticide/PCB, and inorganics). Sample SB-02-03, a subsurface soil sample collected adjacent to the crushed drums, was selected as the reference sample for the soils VOC and SVOC fractions because it contained the lowest contaminant concentrations. Sample SS-02-02, a surface soil sample collected from the same location as SS-02-03, was selected as the reference sample for the soils pesticide/PCB and inorganic fractions for the same reason. Sample SD-02-04, a sediment sample collected upstream of the discharge, was used as the reference sample for all sediment fractions. Concentrations of contaminants detected at greater than three times reference concentrations or, in the absence of reference concentrations, at greater than the SQL or SDL are described below as being "significant concentrations".

Sample SS-02-01, collected from an apparently undisturbed location 200 feet south of Woodford Avenue, contained significant concentrations of one VOC, twelve SVOCs, two pesticides, and two inorganics. Methylene chloride was detected in sample SS-02-01 at 35 micrograms per kilogram ( $\mu\text{g}/\text{kg}$ ). SVOCs, which were detected at concentrations ranging

**TABLE 8. SAMPLE SUMMARY: RAYEX**  
**Samples Collected by TRCC on January 3, 1992**

<b>Sample Location</b>	<b>Matrix</b>	<b>RAS Organic Sample Number</b>	<b>RAS Inorganic Sample Number</b>	<b>Collection Time</b>	<b>Sample Type</b>	<b>Source</b>
SS-02-01	soil	ABN40	MAY978	10:25	Grab	Surface soils in northern corner of the building; from a potentially undisturbed area.
SS-02-02	soil	ABN41	MAY979	10:35	Grab	Surface soils north of the building; from below two crushed drums.
SB-02-03	soil	ABN42	MAY980	11:05	Grab	Subsurface soils from (2-3 feet) the same location as SS-02-02.
SD-02-04	soil	ABN43	MAY981	12:20	Grab	Sediments from the Quinnipiac River, upstream of the outfall.
SD-02-05	soil	ABN44	MAY982	12:00	Grab	Sediments from the Quinnipiac River; immediately downstream of the outfall.
SD-02-06	soil	ABN45	MAY983	12:15	Grab	Field duplicate of SD-02-05.
SD-02-07	soil	ABN46	MAY984	11:45	Grab	Sediments from the Quinnipiac River; downstream of the building.
SD-02-08	aqueous	ABN47	MAY985	7:10	Grab	Rinsate blank.

TABLE 9. SAMPLE RESULTS SUMMARY FOR RAYEX

Samples Collected by TRCC on January 3, 1992.

Sample Location	Compound/Element	Sample Concentration	Reference Concentration
SS-02-01	Methylene Chloride	35 J µg/kg	12 µg/kg (SQL)
	Acenaphthylene	4,700 µg/kg	120 J µg/kg (SB-02-03)
	Anthracene	2,700 µg/kg	2,300 µg/kg (SQL)
	Phenanthrene	5,100 µg/kg	290 J µg/kg (SB-02-03)
	Fluoranthene	13,000 µg/kg	570 J µg/kg (SB-02-03)
	Pyrene	12,000 µg/kg	480 J µg/kg (SB-02-03)
	Benzo(a)anthracene	6,900 µg/kg	200 J µg/kg (SB-02-03)
	Chrysene	7,200 µg/kg	340 J µg/kg (SB-02-03)
	Benzo(b)fluoranthene	14,000 µg/kg	420 J µg/kg (SB-02-03)
	Benzo(k)fluoranthene	5,700 µg/kg	280 J µg/kg (SB-02-03)
	Benzo(a)pyrene	9,400 µg/kg	290 J µg/kg (SB-02-03)
	Indeno(1,2,3-cd)pyrene	5,200 µg/kg	170 J µg/kg (SB-02-03)
	Benzo(g,h,i)perylene	5,000 µg/kg	140 J µg/kg (SB-02-03)
	4,4'-DDT	38.0 µg/kg	7.5 J µg/kg (SS-02-02)
	alpha-Chlordane	5.0 J µg/kg	0.66 J µg/kg (SS-02-02)
	Copper	61.9 mg/kg	18.2 mg/kg (SS-02-02)
	Lead	400 mg/kg	45.2 mg/kg (SS-02-02)
SD-02-05	Anthracene	2,600 J µg/kg	1,500 µg/kg (SQL)
	Phenanthrene	8,000 J µg/kg	1,500 µg/kg (SQL)
	Benzo(a)anthracene	4,200 J µg/kg	1,500 µg/kg (SQL)
	Benzo(a)pyrene	4,200 J µg/kg	1,500 µg/kg (SQL)
	Benzo(b)fluoranthene	5,300 J µg/kg	1,500 µg/kg (SQL)
	Benzo(k)fluoranthene	2,700 J µg/kg	1,500 µg/kg (SQL)
	Chrysene	4,000 J µg/kg	1,500 µg/kg (SQL)
	Fluoranthene	8,800 J µg/kg	1,500 µg/kg (SQL)
	Indeno(1,2,3-cd)pyrene	1,700 J µg/kg	1,500 µg/kg (SQL)
	Pyrene	7,300 J µg/kg	1,500 µg/kg (SQL)
	4,4'-DDD	14.0 J µg/kg	3.8 µg/kg (SQL)
	Methoxychlor	61.0 J µg/kg	19 µg/kg (SQL)
	Arsenic	1.7 J mg/kg	0.24 J mg/kg (SDL)
	Copper	37.1 mg/kg	5.8 mg/kg (SD-02-04)
	Iron	9,870 mg/kg	3,270 mg/kg (SD-02-04)
	Zinc	41.1 J mg/kg	11.7 J mg/kg (SD-02-04)
SD-02-06	Phenanthrene	2,400 J µg/kg	1,600 µg/kg (SQL)
	Fluoranthene	4,600 J µg/kg	1,600 µg/kg (SQL)
	Pyrene	4,300 J µg/kg	1,600 µg/kg (SQL)
	Benzo(a)anthracene	2,100 J µg/kg	1,600 µg/kg (SQL)
	Chrysene	2,200 J µg/kg	1,600 µg/kg (SQL)
	Benzo(b)fluoranthene	2,800 J µg/kg	1,600 µg/kg (SQL)
	Benzo(a)pyrene	2,100 J µg/kg	1,600 µg/kg (SQL)
	4,4'-DDD	7.8 J µg/kg	3.9 µg/kg (SQL)

TABLE 9 (CONTINUED)			
Samples Collected by TRCC on January 3, 1992.			
Sample Location	Compound/Element	Sample Concentration	Reference Concentration
SD-02-06 (Continued)	Copper	30.9 mg/kg	5.8 mg/kg (SD-02-04)
	Lead	35.2 mg/kg	7.3 mg/kg (SD-02-04)
	Selenium	1.9 J mg/kg	0.25 mg/kg (SDL)
	Zinc	36.0 J mg/kg	11.7 mg/kg (SD-02-04)

µg/kg - micrograms per kilogram

mg/kg - milligrams per kilogram

J - Quantitation is approximate due to limitations identified during the quality control review.

SQL - Sample Quantitation Limit

SDL - Sample Detection Limit

from 4,700 (acenaphthylene) to 14,000 µg/kg (benzo[b]fluoranthene), consisted entirely of polycyclic aromatic hydrocarbons (PAHs). 4,4'-DDT and alpha-chlordane were the only pesticides detected in sample SS-02-01. In addition, copper and lead were detected at 61.9 and 400 milligrams per kilogram (mg/kg) in sample SS-02-01.

Samples SD-02-05 and SD-02-06 contained the only contaminants detected in significant concentrations in sediment samples collected at Rayex. The samples were duplicates collected less than ten feet downstream of the discharge pipe and the surface water runoff ditch.

Sample SD-02-05 contained significant concentrations of ten PAHs (SVOCs), two pesticides, and four inorganic analytes. PAH concentrations ranged from 1,700 (indeno[1,2,3-cd]pyrene to 8,800 µg/kg (fluoranthene). The two pesticides, 4,4'-DDD (14.0 µg/kg), and methoxychlor (61.0 µg/kg), were detected in sample SD-02-05. Arsenic (1.7 mg/kg), copper (37.1 mg/kg), iron (9,870 mg/kg), and zinc (41.1 mg/kg) were all detected at significant concentrations.

Eight PAHs and three inorganics, copper (30.9 mg/kg), lead (35.2 mg/kg), and selenium (1.9 mg/kg), were detected in sample SD-02-06 at significant concentrations. PAH concentrations ranged from 2,100 to 4,600 µg/kg in this sample.

The concentrations of PAHs detected in surface soils and sediments at Rayex may be a result of runoff from Woodford Avenue and the paved parking area. PAHs can be formed by the incomplete combustion of petroleum hydrocarbons, such as that which occurs in automobiles. In addition, PAHs may be released from oils, such as those present in pavement (Sittig, 1981). As such, the PAH concentrations detected in samples SS-02-01, SD-02-05, and SD-02-06 may be attributed to other sources in addition to Rayex.

## SUMMARY

The property formerly occupied by Rayex Corp. encompasses an area of 6.8 acres situated on the southeastern side of Woodford Avenue in Plainville, Connecticut. Rayex manufactured plastic and metal sunglasses at the building between 1958 and 1968. The building is currently occupied by Nickson Industries, a manufacturer of automobile muffler hardware.

Rayex reportedly discharged metal electroplating waste containing acids, cyanide, potassium, nickel, silver, gold, and copper to an underground lime-neutralizing tank, which, in turn, emptied into leaching fields. The locations of the tank and leaching fields could not be confirmed. However, an addition to the building was most likely constructed over the tank and leaching fields. Rayex also discharged non-contact cooling water and water used to power a freight elevator into the Quinnipiac River. The river forms the northwestern property boundary. TRCC noted two crushed, rusted drums approximately ten feet north of the parking area. These three areas (leaching field, discharge pipe, and crushed drums) were the only potential areas of concern noted by TRCC at the Rayex building. The only recorded discharge from the Rayex building occurred in 1961, when CTDEP inspectors noted that the elevator/ cooling water had a pH of 4.2.

Potential receptors of contamination from Rayex include approximately 51,145 people who consume drinking water drawn from wells located within four miles of the property. The closest wells, a system of three wells operated by the Plainville Water Company, are located approximately 1,000 feet north of the building. These wells provide water to approximately 9,396 residents of Plainville.

Eighteen state listed endangered, threatened, or concern species have been noted within four miles and/or fifteen downstream miles of the Rayex property. In addition, designated wetlands occur on the Rayex property and along the entire length of the 15-mile downstream surface water pathway.

TRCC collected two surface soil, one subsurface soil, and four sediment samples from the Rayex property on January 3, 1992. Polycyclic aromatic hydrocarbons (PAHs), pesticides, and inorganics were detected in these samples. PAHs were the most prevalent compounds detected. Since they were not reportedly discharged by either Rayex or Nickson Industries, the presence of PAHs can potentially be attributed to the sampling locations proximity to heavily travelled roads and parking areas. PAHs are produced by the combustion of petroleum hydrocarbons, so they could have been deposited in automobile exhaust.

Based on the number of people, sensitive environments, and state listed species potentially affected by contamination detected in soils and sediment on the Rayex property, EPA recommends that continued investigative work under CERCLA be conducted at the Rayex property.

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